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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,394	02/24/2000	Kyou-Yoon Sheem	3364.P039	5787

7590 01/27/2004

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EXAMINER

MERCADO, JULIAN A

ART UNIT PAPER NUMBER

1745

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/512,394

Applicant(s)

SHEEM ET AL

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-6 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-6, 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Remarks*

This Office action is responsive to applicant's amendment filed November 3, 2003.

Claims 1, 3-6 and 8-10 are pending.

### *Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda et al. in view of either Yamada et al. or Peled et al, and further in view of Mao et al.

The rejection is maintained for the reasons of record and for the additional reasons to follow in view of applicant's amendment. Applicant's amendment to independent claims 1 and 6 recites "at least one shoulder at 700°C or more in differential thermal analysis. The examiner notes that a fair reading of applicant's specification discloses that a shoulder at 700°C or more is indicative of an active material comprising crystalline carbon. (specification, page 19 line 15 et seq.) In consideration of applicant's remarks, applicant is noted to acquiesce to Ueda et al. disclosing a non-aqueous electrolyte secondary cell having a core made of crystalline graphite (carbon) structure and a low crystallinity or amorphous carbon layer [312] at least partially covering the core [311]. (remarks on page 5, third full paragraph) Indeed, Ueda et al. is maintained to teach or at least suggest a negative active material having a carbon core [311] of highly crystalline carbon at least partially coated with a low crystallinity or amorphous carbon

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layer [312] (col. 8 line 5-13) and as such, it is reasonably expected for the active material in Ueda et al. to naturally flow to inherently have the same shoulder at 700°C or more via differential thermal analysis as claimed, absent of a showing by applicant that the claimed invention distinguishes over the reference. *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) and *In re Spada*, 15 USPQ 2d 1655 (Fed. Cir. 1990) The presence of crystalline carbon both in the core and at least to some extent in the outer layer of the active material in Ueda et al. would result in the claimed at least one shoulder at 700°C or more via differential thermal analysis since a shoulder at 700°C or more is indicative of crystalline carbon.

Arguments against Yamada et al., Peled et al or Mao et al. appear to be directed to these references failing to remedy alleged differences between Ueda et al. and the present claims. However, in view of Ueda et al. being maintained for the reasons discussed above, the rejection in view of either Yamada et al. or Peled et al. and further in view of Mao et al. is subsequently maintained for the reasons discussed in the previous Office action.

The examiner acknowledges applicant's assertion that the carbon shell includes carbon derived from amorphous carbon (remarks on page 7 second full paragraph, emphasis as submitted). However, as discussed in the prior Office action, this process limitation is not given patentable weight as the process limitation does not give breadth or scope to the product claim. The claimed product appears to be the same or similar to Ueda et al.'s carbon core/carbon shell active material insofar as having the claimed crystalline core and intermediate crystalline/amorphous outer layer. In the event that any differences can be shown by the product of independent claims 1 and 6 from that shown by the prior art, such differences would have

been obvious to the skilled artisan as a routine modification of the product absent of a showing of unexpected results. *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985).

### ***Double Patenting***

Claims 1, 3-6 and 8-10 are rejected under the judicially created doctrine of double patenting over claims 1-9 of U. S. Patent No. 6,355,377 B1 and over claims 1-7 of U.S. Patent No. 6,395,427 B1 since the pending claims, if allowed, would improperly extend the "right to exclude" already granted in each patent.

The rejection(s) is maintained for the reasons discussed in the prior Office action.

Applicant submits that the semi-crystalline carbon shells of the '377 Patent and the '427 Patent have metal boride and metal carbide while the presently claimed carbon shell has a transition metal, an alkali metal and an alkali earth metal with no metal boride or metal carbide. In reply, the examiner asserts that the scope of the present claims do not preclude the presence of other metals in the carbon shell such as metal boride and metal carbide. As to a metal such as a transition metal, alkali metals, alkali earth metals and semi-metals, as discussed in the previous Office action both the '377 Patent and the '427 Patent recite a transition metal such as Mn, *inter alia* (see claim 3 and claim 2, respectively).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

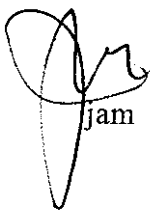
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jam



Patrick Ryan  
Supervisory Patent Examiner  
Art Unit 1745